
New Combinations in *Trichophorum*, *Scirpoides*, and *Ficinia* (Cyperaceae)

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ABSTRACT. Recent DNA studies support the recognition of four new combinations for species originally assigned to *Scirpus*. *Trichophorum rigidum* has a single pseudolateral spikelet and lacks perianth segments. *Scirpoides burkei* has a woody rhizome, compact globose inflorescences, and spirally arranged glumes and lacks perianth segments. *Ficinia trollii* is a robust species lacking perianth segments. *Ficinia nodosa* has a woody rhizome and a gynophore.

The genus *Scirpus* L. (Cyperaceae) is generally accepted as being split into several segregate genera on the basis of gross and embryo morphology (Bruhl, 1995; Goetghebeur, 1998). However, the placement of several species originally assigned to *Scirpus* has been uncertain due to conflicting morphological characters. Recent studies of chloroplast DNA in Cyperaceae, focusing on parsimony analysis of sequence data obtained from the *rbcL* gene and the *trnL-F* non-coding region, have now clarified the placement of these taxa (Muasya et al., 1998; Muasya et al., submitted). The following combinations are made to place the species into appropriate genera and maintain these genera as monophyletic.

Trichophorum rigidum (Steudel) Goetghebeur, Muasya & D. A. Simpson, comb. nov. Basionym: *Isolepis rigida* Steudel ex Lechler, *Berberid. Amer. Austr.* 56: 1857. *Scirpus rigidus* (Steudel) Böckeler, *Linnaea* 36: 492. 1870. *Baeothryon rigidum* (Steudel) Sojak, in *Cas. Nar. Muz. (Prague)*, 148: 193 (1979 publ. 1980). TYPE: Peru. *Lechler 2064* (holotype, B; isotype, K).

Distribution. Bolivia, Ecuador, Peru. Paramo; 3700–4400 m.

This species was first described in *Isolepis* but was subsequently transferred to *Scirpus*. Böckeler

(1870) adopted a broad circumscription of the latter and included plants with characters such as a single pseudolateral spikelet and the absence of perianth segments. However, these are not consistent with *Scirpus* as currently circumscribed (branched inflorescence with many spikelets and the presence of perianth segments). Although the plant superficially resembles *Isolepis* in having rather small spikelets, its placement in this genus was carried out at a time when this genus was poorly circumscribed. We consider it to be morphologically closer to *Trichophorum* in having erect leaves and a single spikelet. Analysis of molecular data (Muasya et al., 1998; Muasya et al., submitted) makes this taxon sister to *Trichophorum cespitosum* (L.) Hartman, thus supporting our morphological interpretation.

Scirpoides burkei (C. B. Clarke) Goetghebeur ex Goetghebeur, Muasya & D. A. Simpson, comb. nov. Basionym: *Scirpus burkei* C. B. Clarke ex C. B. Clarke, in *Thiselton-Dyer, Flora Cap.* 7: 227. 1898. TYPE: South Africa. *Burke 231* (lectotype, here selected, K).

Distribution. South Africa. Seasonal wetlands; 1000–2500 m.

This species has some characteristics of *Scirpus* as currently circumscribed, in particular the branched inflorescence with numerous spikelets. However, several other characters place it in *Scirpoides*, such as the woody rhizome, compact globose inflorescences, spikelets with spirally arranged glumes, and the absence of perianth segments. The new combination, *Scirpoides burkei*, was provisionally made by Goetghebeur (1986) based on morphological data. DNA analyses (Muasya et al., 1998; Muasya et al., submitted) make the taxon sister to *Scirpoides holoschoenus*, thus supporting its placement in *Scirpoides*. *Scirpoides burkei* is distinguished from other members of the genus by the

well-developed leaf blades and mucronate glumes with broad-hyaline margins.

Scirpus schinzianus, cited by Clarke (1894) in synonymy, is a manuscript name from two collections (*Rehman 4694, 6889*, not located) and was never validly published. Despite the orthographic similarity it is not connected with *Scirpus schinzii* Böckeler, which is a synonym of *Scirpoides dioecius* (Kunth) J. Browning. The lectotypification proposed here avoids possible confusion associated with these names.

Ficinia trollii (Kükenthal) Muasya & D. A. Simpson, comb. nov. Basionym: *Scirpus trollii* Kükenthal, Feddes Repert. 53: 72. 1944. *Isolepis trollii* (Kükenthal) K. Lye, in Lye & Haines, Bot. Not. 130: 313. 1977. TYPE: Tanzania. *Troll 4916* (holotype, B).

Distribution. Mozambique, Tanzania, and Zimbabwe. Alpine grassland on broken quartzite rocks; 1600–2400 m.

Although first described as a member of *Scirpus* s.l., Lye in Lye and Haines (1977) transferred this species to *Isolepis* without any comment. Haines and Lye (1983) supported this placement and based it on the shared absence of a gynophore. They also suggested that it is “possibly more closely related to the genus *Ficinia* . . . than to other species of *Isolepis*,” being a robust plant with “a tussocky, almost woody base . . . unlike that of any other (*Isolepis*) species” (Haines & Lye, 1983: 140). DNA studies (Muasya et al., submitted) support the latter, with *F. trollii* embedded in a clade comprising *Ficinia* species. We therefore consider it appropriate to place the species in *Ficinia*, although a revision of this genus is highly desirable in order to establish generic limits and review the characters that distinguish the group.

Ficinia trollii is diagnosed by the woody rhizome, leaves with scabrid margins, terete spikelets, flowers lacking perianth segments, and smooth, shiny nutlets.

Ficinia nodosa (Rottböll) Goetghebeur, Muasya & D. A. Simpson, comb. nov. Basionym: *Scirpus nodosus* Rottböll, Descr. Pl. Rar. 24. 1772. *Isolepis nodosa* (Rottböll) R. Brown, Prodr. 221. 1810. *Holoschoenus nodosus* (Rottböll) A. Dietrich, Sp. Pl. 2: 165. 1833. *Scirpoides nodosus* (Rottböll) Soják, Cas. Nár. Mus., Odd. Prir. 141: 62. 1972. TYPE: South Africa. *Koenig s.n.* (holotype, C).

Isolepis monocephala Steudel, Syn. Cyp. 97. 1855. Syn. nov. TYPE: Chile. *D’Urville 185* (holotype, P).

Scirpus nodosus Rottböll var. *macrostachyus* Benth., Fl. Austral. 7: 331. 1878. Syn. nov. TYPE: Australia. *Oldfield s.n.* (holotype, K).

Distribution. Widespread in the Southern Hemisphere, including Australia, Chile, New Zealand, South Africa, St. Helena, and St. Paul. Coastal sand dunes, stream sides; 0–1500 m.

Ficinia nodosa has often been treated as a member of *Scirpus* (e.g., Gordon-Gray, 1995) or *Isolepis* (e.g., Wilson 1981, 1994) even though it has characters typical of *Ficinia*, such as the woody rhizome and presence of a gynophore. The main justification for this lies in its distribution pattern. *Ficinia* has traditionally been considered as occurring only in sub-Saharan Africa, whereas *Scirpus* and *Isolepis* are widespread. *Ficinia nodosa* is widespread in the Southern Hemisphere, and its inclusion in *Ficinia* markedly extends the distribution of this genus. DNA analyses (Muasya et al., 1998; Muasya et al., submitted) place the species within a *Ficinia* clade that, together with the morphological characters indicated above, make its placement in *Ficinia* appropriate.

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